

NOTICE OF INTENT

Department of Environmental Quality
Office of Environmental Assessment
Environmental Planning Division

Skin Dose Limits, Corrections, and Clarifications
(LAC 33:XV.102, 110, 326, 410, 503, 541, and 1410) (RP036)

Under the authority of the Environmental Quality Act, R.S. 30:2001 et seq., and in accordance with the provisions of the Administrative Procedure Act, R.S. 49:950 et seq., the secretary gives notice that rulemaking procedures have been initiated to amend the Radiation Protection regulations, LAC 33:XV.102, 110, 326, 410, 503, 541, and 1410 (Log #RP036).

This proposed rule is amending the state's regulations regarding the definition and method of calculating shallow dose equivalent (SDE). A result of this amendment is to make the skin dose limit less restrictive when small areas of skin are irradiated and to address skin and extremity doses from all source geometries under a single limit. Reduced monitoring will result in reduced external dose, and reduced use of protective clothing will result in fewer industrial hazards in the workplace. This amendment, in LAC 33:XV.102 and 410, is taken verbatim from 10 CFR 20.1003 and 1203 and is required for the state radiation program/Nuclear Regulatory Commission compatibility. The amendments to sections regarding internal inspections, prohibited uses, and locks on radiation sources will correct conflicts that are present with other sections of LAC 33:Part XV. The definition of permanent radiographic installation is being amended in order to agree with its federal counterpart. This rulemaking is necessary to alleviate conflicts among sections within LAC 33:Part XV and to keep Louisiana's radiation protection program current with its federal counterpart. The basis and rationale for this rule are to mirror the federal regulations and to alleviate conflicting sections and clarify the radiation regulations.

This proposed rule meets an exception listed in R.S. 30:2019(D)(2) and R.S. 49:953(G)(3); therefore, no report regarding environmental/health benefits and social/economic costs is required. This proposed rule has no known impact on family formation, stability, and autonomy as described in R.S. 49:972.

A public hearing will be held on April 26, 2004, at 1:30 p.m. in the Galvez Building, Oliver Pollock Conference Room C111, 602 N. Fifth Street, Baton Rouge, LA 70802. Interested persons are invited to attend and submit oral comments on the proposed amendments. Should individuals with a disability need an accommodation in order to participate, contact Judith A. Schuerman, Ph.D., at the address given below or at (225) 219-3550. Free parking is available across the street in the Galvez parking garage when the parking ticket is validated by department personnel at the hearing.

All interested persons are invited to submit written comments on the proposed regulation. Persons commenting should reference this proposed regulation by RP036. Such comments must be received no later than May 3, 2004, at 4:30 p.m., and should be sent to Judith A. Schuerman, Ph.D., Office of Environmental Assessment, Environmental Planning Division, Regulation Development Section, Box 4314, Baton Rouge, LA 70821-4314 or to FAX (225) 219-3582 or by e-mail to judith.schuerman@la.gov. Copies of this proposed regulation can be purchased by contacting the DEQ Public Records Center at (225) 219-3168. Check or money order is required in advance for each copy of RP036.

This proposed regulation is available for inspection at the following DEQ office locations from 8 a.m. until 4:30 p.m.: 602 N. Fifth Street, Baton Rouge, LA 70802; 1823 Highway 546, West Monroe, LA 71292; State Office Building, 1525 Fairfield Avenue, Shreveport, LA 71101; 1301 Gadwall Street, Lake Charles, LA 70615; 201 Evans Road, Building 4, Suite 420, New Orleans, LA 70123; 111 New Center Drive, Lafayette, LA 70508; 104 Lococo Drive, Raceland, LA 70394 or on the Internet at <http://www.deq.louisiana.gov/planning/regs/index.htm>.

James H. Brent, Ph.D.
Assistant Secretary

Title 33
ENVIRONMENTAL QUALITY
Part XV. Radiation Protection

Chapter 1. General Provisions

§102. Definitions and Abbreviations

A. As used in these regulations, these terms have the definitions set forth below. Additional definitions used only in a certain chapter may be found in that chapter.

* * *

Shallow Dose Equivalent (H_s)—~~applies to the external exposure of the skin of the whole body or the skin of an extremity, and is taken as the dose equivalent at a tissue depth of 0.007 centimeter (7 mg/cm²) averaged over an area of 1 square centimeter, which applies to the external exposure of the skin or an extremity.~~

* * *

B. The following metric prefixes and abbreviations are used in these regulations:

c	centi	(=10 ⁻²)	f	femto	(=10 ⁻¹⁵)
m	milli	(=10 ⁻³)	k	kilo	(=10 ³)
μ	micro	(=10 ⁻⁶)	M	mega	(=10 ⁶)
n	nano	(=10 ⁻⁹)	G	giga	(=10 ⁹)
p	pico	(=10 ⁻¹²)	T	tera	(=10 ¹²)

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), repealed and repromulgated by Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:34 (January 1992), amended LR 19:1421 (November 1993), LR 20:650 (June 1994), LR 22:967 (October 1996), LR 24:2089 (November 1998), repromulgated LR 24:2242 (December 1998), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2563 (November 2000), LR 26:2767 (December 2000), LR 30:

§110. Prohibited Uses

A. - D. ...

E. No person shall intentionally apply or allow to be applied, either directly or indirectly, radiation to human beings except by, or under the supervision of, persons licensed by Louisiana to practice the healing arts and who are authorized to use radiation on humans, ~~except that fluoroscopy on humans shall be performed only by a physician or dentist.~~

1. Supervision, as used in this Subsection, shall mean the responsibility for, and control of, quality, radiation safety, and technical aspects of the application of radiation to human beings for diagnostic and therapeutic purposes.

2. This prohibition shall not be deemed to apply to persons who are exposed to radiation occupationally, or as otherwise provided in these regulations.

NOTE: ~~Repealed. Supervision, as used in this Subsection, shall mean the responsibility for, and control of, quality, radiation safety, and technical aspects of the application of radiation to human beings for diagnostic and therapeutic purposes. This prohibition shall not be deemed to apply to persons who are occupationally exposed to radiation or as otherwise provided in these regulations.~~

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), repealed and repromulgated by the Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:34 (January 1992), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2564 (November 2000), LR 30:

Chapter 3. Licensing of Radioactive Material

Subchapter D. Specific Licenses

§326. Special Requirements for Issuance of Certain Specific Licenses for Radioactive Material

A. - E.1.b. ...

c. The applicant will have an adequate internal inspection system, or other management control, to ensure that license provisions, regulations, and the applicant's operating and emergency procedures are followed by radiographers ~~and radiographers' assistants~~; the inspection system shall include the performance of internal inspections not to exceed ~~three~~ six months and the retention of records of such inspections for three consecutive years.

d. - k. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), repealed and repromulgated by the Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:34 (January 1992), amended LR 24:2092 (November 1998),

amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2569 (November 2000), LR 27:1228 (August 2001), LR 30:

Chapter 4. Standards for Protection Against Radiation

Subchapter B. Radiation Protection Programs

§410. Occupational Dose Limits for Adults

A. - A.1.b. ...

2. the annual limits to the lens of the eye, to the skin of the whole body, and to the skin of the extremities, which are:

a. ...

b. a shallow dose equivalent of 0.5 Sv (50 rem) to the skin of the whole body or to the skin of any extremity.

B. ...

C. The assigned deep dose equivalent ~~and shallow dose equivalent shall must~~ be for the ~~portion part~~ of the body receiving the highest exposure, ~~determined as follows:~~ The assigned shallow dose equivalent must be the dose averaged over the contiguous 10 square centimeters of skin receiving the highest exposure.

~~1. The deep dose equivalent, lens dose equivalent, and shallow dose equivalent may be assessed from surveys or other radiation measurements for the purpose of demonstrating compliance with the occupational dose limits, if the individual's monitoring device was not in the region of highest potential exposure or the results of individual monitoring are unavailable;~~

~~D2. If when~~ a protective apron is worn while working with medical fluoroscopic equipment and monitoring is conducted as specified in LAC 33:XV.431, the effective dose equivalent for external radiation shall be determined ~~as follows:~~ using one of the following methods.

~~1a. When~~ only one individual monitoring device is used and it is located at the neck outside the protective apron, the reported deep dose equivalent shall be the effective dose equivalent for external radiation; ~~or.~~

~~2b. When~~ only one individual monitoring device is used and it is located at the neck outside the protective apron, and the reported dose exceeds 25 percent of the limit specified in this Section, the reported deep dose equivalent value, multiplied by 0.3, shall be the effective dose equivalent for external radiation; ~~or.~~

~~3e. When~~ individual monitoring devices are worn, both under the protective apron at the waist and outside the protective apron at the neck, the effective dose equivalent for external radiation shall be assigned the value of the sum of the deep dose equivalent reported for the individual monitoring device located at the waist under the protective apron, multiplied by 1.5, and the deep dose equivalent reported for the individual monitoring device located at the neck outside the protective apron, multiplied by 0.04.

ED. Derived air concentration (DAC) and annual limit on intake (ALI) values are specified in Table I of Appendix B and may be used to determine the individual's dose and to demonstrate compliance with the occupational dose limits. See LAC 33:XV.476.

EE. Notwithstanding the annual dose limits, the licensee shall limit the soluble uranium intake by an individual to 10 milligrams in a week in consideration of chemical toxicity. See Eendnote 3 of Appendix B.

GF. The licensee or registrant shall reduce the dose that an individual may be allowed to receive in the current year by the amount of occupational dose received while employed by any other person. See LAC 33:XV.414.E and F.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 19:1421 (November 1993), LR 22:969 (October 1996), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2769 (December 2000), LR 30:

Chapter 5. Radiation Safety Requirements for Industrial Radiographic Operations

§503. Definitions

A. As used in this Chapter, the following definitions apply:

Permanent Radiographic Installation—an enclosed shielded room, cell, or vault, not located at a temporary jobsite, installation or structure designed or intended for radiography and in which radiography is regularly performed.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 20:653 (June 1994), LR 23:1138 (September 1997), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2581 (November 2000), LR 26:2772 (December 2000), LR 27:1231 (August 2001), LR 29:34 (January 2003), LR 30:

Subchapter A. Equipment Control

§541. Locking of Sources of Radiation

A. Each radiographic exposure device must have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The exposure device and/or its container must be kept locked, with the key removed at all times for a keyed-lock, when not under the direct surveillance of a radiographer, ~~a radiographer's assistant~~, or a trainee except at permanent radiographic installations in accordance with LAC 33:XV.585. In addition, during radiographic operations the sealed source assembly must be secured in the shielded position each time the source is returned to that position.

B. Each sealed source storage container and source changer must have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. Storage containers and source changers must be kept locked, with the key removed at all times for a keyed-lock, when containing sealed sources, except when under the direct surveillance of a radiographer, ~~a radiographer's assistant~~, or trainee.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 20:653 (June 1994), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 27:1232 (August 2001), LR 28:306 (February 2002), LR 30:

Chapter 14. Regulation and Licensing of Naturally Occurring Radioactive Material (NORM)**§1410. General Licenses: Pipe Yards, Storage Yards, or Production Equipment Yards**

A. A general license is hereby issued for pipe yards or storage yards or production equipment yards to receive, possess, process, and clean tubular goods or equipment ~~which~~ that are contaminated with scale or residue but do not exceed 50 microroentgens per hour, provided:

1. the department is notified ~~within at least 90 days of the effective date of these regulations of the intention of the facility to receive~~ prior to receipt of tubular goods or equipment ~~which~~ that are contaminated with scale or residue but do not exceed 50 microroentgens per hour;

2. - 6. ...

7. a plan for cleanup is submitted to the Office of Environmental Services, Permits Division within 180 days of the ~~effective date of these regulations for existing facilities that have~~ discovery of NORM contaminated soil in excess of the limit in LAC 33:XV.1410.A.6. The plan shall include a schedule for cleanup that is to be

approved by the department. The general licensee may include in this plan an application to the department for a one time authorization to perform this cleanup or use a specific licensee; and

A.8. - B. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Nuclear Energy, Nuclear Energy Division, LR 15:736 (September 1989), repealed and repromulgated by the Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:605 (June 1992), amended LR 21:26 (January 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2599 (November 2000), LR 30:

**FISCAL AND ECONOMIC IMPACT STATEMENT
FOR ADMINISTRATIVE RULES**LOG #: RP036

Person

Preparing

Statement: Jodie L. AlexisDept.: Environmental QualityPhone: 225-219-3566Office: Environmental AssessmentAddress: DEQ
P.O. Box 4314,
Baton Rouge, LA 70821-4314Rule
Title: Skin Dose Limits and
Other Corrections and
Clarifications (LAC 33:XV.102, 110, 326,
410, 503, 541 and 1410)

Date Rule

Takes Effect: Upon Promulgation**SUMMARY**

(Use complete sentences)

In accordance with Section 953 of Title 49 of the Louisiana Revised Statutes, there is hereby submitted a fiscal and economic impact statement on the rule proposed for adoption, repeal or amendment. THE FOLLOWING STATEMENTS SUMMARIZE ATTACHED WORKSHEETS, I THROUGH IV AND WILL BE PUBLISHED IN THE LOUISIANA REGISTER WITH THE PROPOSED AGENCY RULE.

I. ESTIMATED IMPLEMENTATION COSTS (SAVINGS) TO STATE OR LOCAL GOVERNMENTAL UNITS (Summary)

There are no expected implementation costs or savings to state or local governmental units by the proposed rule.

II. ESTIMATED EFFECT ON REVENUE COLLECTIONS OF STATE OR LOCAL GOVERNMENTAL UNITS (Summary)

There is no estimated effect on revenue collections of state or local governmental units by the proposed rule.

III. ESTIMATED COSTS AND/OR ECONOMIC BENEFITS TO DIRECTLY AFFECTED PERSONS OR NON-GOVERNMENTAL GROUPS (Summary)

There are no estimated costs or significant economic benefits to directly affected persons or non-governmental groups by the proposed rule. Regulated entities may experience marginal savings from reduced monitoring and use of protective clothing.

IV. ESTIMATED EFFECT ON COMPETITION AND EMPLOYMENT (Summary)

There is no estimated effect on competition and employment by the proposed rule.

Signature of Agency Head or Designee

LEGISLATIVE FISCAL OFFICER OR
DESIGNEE

James H. Brent, Ph.D., Assistant Secretary
Typed Name and Title of Agency Head or Designee

Date of Signature

Date of Signature

LFO 7/1/94

FISCAL AND ECONOMIC IMPACT STATEMENT FOR ADMINISTRATIVE RULES

The following information is requested in order to assist the Legislative Fiscal Office in its review of the fiscal and economic impact statement and to assist the appropriate legislative oversight subcommittee in its deliberation on the proposed rule.

- A. Provide a brief summary of the content of the rule (if proposed for adoption or repeal) or a brief summary of the change in the rule (if proposed for amendment). Attach a copy of the notice of intent and a copy of the rule proposed for initial adoption or repeal (or, in the case of a rule change, copies of both the current and proposed rules with amended portions indicated).

This proposed rule is amending the state's regulations regarding the definition and method of calculating shallow dose equivalent (SDE). A result of this amendment is to make the skin dose limit less restrictive when small areas of skin are irradiated and to address skin and extremity doses from all source geometries under a single limit. Reduced monitoring will result in reduced external dose, and reduced use of protective clothing will result in fewer industrial hazards in the workplace. This amendment (LAC 33:XV:102 and 410) is taken verbatim from 10 CFR 20.1003 and 1203 and is required for state radiation program/Nuclear Regulatory Commission compatibility. The amendments of internal inspections, prohibited uses, and locks on radiation sources will correct conflicts that are present with other sections of LAC 33:Part XV. The definition of *permanent radiographic installation* is being amended in order to agree with its federal counterpart.

- B. Summarize the circumstances which require this action. If the Action is required by federal regulation, attach a copy of the applicable regulation.

This rulemaking is necessary to alleviate conflicts among sections within LAC 33:Part XV and to keep Louisiana's radiation protection program current with its federal counterpart.

- C. Compliance with Act II of the 1986 First Extraordinary Session
(1) Will the proposed rule change result in any increase in the expenditure of funds? If so, specify amount and source of funding.

No increase of expenditures is expected.

- 2) If the answer to (1) above is yes, has the Legislature specifically appropriated the funds necessary for the associated expenditure increase?

- (a) _____ Yes. If yes, attach documentation.
(b) _____ No. If no, provide justification as to why this rule change should be published at this time.

This question is not applicable.

FISCAL AND ECONOMIC IMPACT STATEMENT**WORKSHEET****I. A. COSTS OR SAVINGS TO STATE AGENCIES RESULTING FROM THE ACTION PROPOSED**

1. What is the anticipated increase (decrease) in costs to implement the proposed action?

<u>COSTS</u>	<u>FY 03-04</u>	<u>FY 04-05</u>	<u>FY 05-06</u>
PERSONAL SERVICES _____			
OPERATING EXPENSES _____			
PROFESSIONAL SERVICES _____			
OTHER CHARGES _____			
EQUIPMENT _____			
TOTAL _____	0 _____	0 _____	0 _____
<u>MAJOR REPAIR & CONSTR.</u>			
<u>POSITIONS(#)</u>	<u>0</u>	<u>0</u>	<u>0</u>

2. Provide a narrative explanation of the costs or savings shown in "A.1.", including the increase or reduction in workload or additional paperwork (number of new forms, additional documentation, etc.) anticipated as a result of the implementation of the proposed action. Describe all data, assumptions, and methods used in calculating these costs.

The proposed rule should not result in any increase or decrease in costs to implement the proposed action.

3. Sources of funding for implementing the proposed rule or rule change.

<u>SOURCE</u>	<u>FY 03-04</u>	<u>FY 04-05</u>	<u>FY 05-06</u>
STATE GENERAL FUND _____			
AGENCY SELF-GENERATED _____			
DEDICATED _____			
FEDERAL FUNDS _____			
OTHER (Specify) _____			
TOTAL _____	0 _____	0 _____	0 _____

4. Does your agency currently have sufficient funds to implement the proposed action? If not, how and when do you anticipate obtaining such funds?

The agency has sufficient funds to implement the proposed rule.

B. COST OR SAVINGS TO LOCAL GOVERNMENTAL UNITS RESULTING FROM THE ACTION PROPOSED.

1. Provide an estimate of the anticipated impact of the proposed action on local governmental units, including adjustments in workload and paperwork requirements. Describe all data, assumptions and methods used in calculating this impact.

There should be no impact from the proposed action on the local governmental units.

2. Indicate the sources of funding of the local governmental unit which will be affected by these costs or savings.

This question is not applicable.

FISCAL AND ECONOMIC IMPACT STATEMENT**WORKSHEET****II. EFFECT ON REVENUE COLLECTIONS OF STATE AND LOCAL GOVERNMENTAL UNITS**

A. What increase (decrease) in revenues can be anticipated from the proposed action?

REVENUE INCREASE/DECREASE	FY 03-04	FY 04-05	FY 05-06
STATE GENERAL FUND _____			
AGENCY SELF-GENERATED _____			
RESTRICTED FUNDS* _____			
FEDERAL FUNDS _____			
LOCAL FUNDS _____			
TOTAL	0	0	0

*Specify the particular fund being impacted.

B. Provide a narrative explanation of each increase or decrease in revenues shown in "A." Describe all data, assumptions, and methods used in calculating these increases or decreases.

This question is not applicable.

III. COSTS AND/OR ECONOMIC BENEFITS TO DIRECTLY AFFECTED PERSONS OR NONGOVERNMENTAL GROUPS

A. What persons or non-governmental groups would be directly affected by the proposed action? For each, provide an estimate and a narrative description of any effect on costs, including workload adjustments and additional paperwork (number of new forms, additional documentation, etc.), they may have to incur as a result of the proposed action.

No persons or non-governmental groups will be directly affected by the proposed actions.

B. Also provide an estimate and a narrative description of any impact on receipts and/or income resulting from this rule or rule change to these groups.

This question is not applicable.

IV. EFFECTS ON COMPETITION AND EMPLOYMENT

Identify and provide estimates of the impact of the proposed action on competition and employment in the public and private sectors. Include a summary of any data, assumptions and methods used in making these estimates.

There will be no impact from the proposed action on competition or employment in the public or private sector.